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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,204	04/26/2001	Charles Wolfe	4740-006	8819

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EXAMINER	
PHAM, BRENDA H	
ART UNIT	**PAPER NUMBER**
2664	4

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/843,204	Applicant(s) WOLFE ET AL.	
	Examiner Brenda Pham	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 31-53* is/are rejected.

7)☐ Claim(s) *27-30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2,3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-53 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-7, 9-26, 31-35, 37-53 are rejected under 35 USC 102(a) as being anticipated by **Dougherty** (WO 01/19127 A2).

-Regarding claims 1, 14-16, 18, 23, 25, 26, 31-33, 37-44, 47, 50, **Dougherty** discloses a radio access network supporting mobile terminal communications comprising: a mesh of RF-coupled radio base stations, each said radio base station **(40)** operative to transmit and receive communications traffic to and from one or more mobile terminals, and to relay communications traffic to and from other ones of said radio base stations in said mesh **{Each base station (40) forms a coverage area for exchanging information packets with subscriber units within the coverage area. Base station (40) may also route traffic to and from other ones of said radio base stations in said mesh 41 (page 13, paragraph 2, line 14-16)}**;

at least one concentrator **(40)** coupled to at least one said radio base station **(20)** in said mesh to carry the aggregate of communications traffic associated with said mesh **{(also see figure 2), Each distribution point 40 receives an information packet**

from either another distribution point 40, from subscriber unit 26 in communication with distribution point 40 through access point 22, or from an external communication system. If distribution point 40 determines the information packet is destined for subscriber unit 26 within coverage area 24 of access point 22 in communication with distribution point 40, distribution point 40 forward the packet to access point 22 forming coverage area 24 containing destination subscriber unit 26, (page 14, paragraph 3)}.

a base station controller **(Supervisor 56)** communicatively coupled to said at least one concentrator **(40)** to process communications traffic to and from said mesh **{Each concentrator (40) communicates with base station controller (56). Base station controller (56) tracks the locations of subscriber unit 26 within communication system 20, identifying with which concentrator (40) each subscriber unit 26 is currently communicating. Base station controller (56) may also serve as a collection point for alarms and performance measuring of communication system 20 (page 16, paragraph 1)}.**

-Regarding claims 2, 5, 17, 21, 45, **Dougherty** further teaches wherein said mesh of radio base stations comprises an IP-based packet data network **{Concentrator (40) may route packets within mesh 41 under a variety of protocols such as ATM, TCP/IP, or the like (page 13, paragraph 3)}** wherein each radio base station routes packet data intended for other radio base stations within said mesh, **{Each base**

station (22) communicate with at least one distribution point 40 to routes packet data intended for other radio base station (22, 40) (page 13, paragraph 2)}.

-Regarding claims 3, 4, 9, 11, 24, 34-35, 37, 48, **Dougherty** teaches wherein each said radio base station **(40, see figure 2)** comprises: a mobile terminal interface comprising first RF resources operative to communicate with a plurality of mobile terminals operating in a coverage area of said radio base station; **{Distribution point 40 includes one or more front end communication interfaces 100, each front end interface communicating with one access point 22. Front-end interface 100 may provide a plug-in port for receiving access point 22. Front-end interface 100 also connects to antenna 102 for establishing radio link 42 with access point 22};**

a backhaul interface comprising second RF resources operative to communicate with other ones of said radio base stations in said mesh; **{Distribution point 40 also includes back end communication interface 106 for connecting distribution point 40 with additional distribution points 40, with supervisor 56, and, if distribution point 40 is a gateway 50, with telecommunication systems, private networks systems, video distribution system, the Internet, or the like. (page 18, paragraph 2)}**; a controller **(Supervisor 56)** to control operation of said radio base station **(22 and 40)**; a router **(concentrator 40 contains both routing and switching functionality)** transmit and receive packet data through said backhaul interface, said packet data comprising communications traffic for any mobile terminals supported by said radio

base station as well as communications traffic for other radio base stations in said mesh.

-Regarding claims 6, 7, **Dougherty** teaches wherein said first RF resources comprises RF transceivers implementing a standardized cellular communications air interface suitable for signaling between the mobile terminals and said radio base station **(inherently included in base station 40 for wirelessly communicated with mobile terminals 26).**

-Regarding claim 10, **Dougherty** teaches wherein said concentrator (40) is a mesh (41) attachments point comprising: a first communication interface inherently coupled to said base station controller 56 and a second communications interface inherently coupled to one or more radio base stations (22, 40) in said mesh 41.

-Regarding claims 12, 13, 19-20, 22, **Dougherty** teaches wherein said base station controller (supervisor 56) comprises a control system operative to: configure routing tables maintained in said radio base stations comprising said mesh to establish routing paths through said mesh; and update said routing tables during operation of said radio access network to dynamically adjust said routing paths based on the respective volume of communications traffic being relayed by radio base stations within said mesh (page 16, paragraph 2).

-Regarding claim 15, **Dougherty** teaches a network manager communicatively coupled to said base station controller and operative to provide network management functions for said mesh of radio base stations **{(page 15, paragraph 2). "gateway 50 provide a bridge to additional communication system 52 including wireless and wireline telecommunication systems, video distribution systems, computer network system such as the Internet, packet systems, frame systems, ATM systems, IP systems, private networks and any other suitable communication or information system. If distribution point 40 determines that information packet is destined for delivery outside of communication system 20, distribution point 40 forwards the packet to one of distribution points 40 in communication with gateway 50."}**

-Regarding claim 51-53, **Dougherty** teaches determining a best route through said mesh for communication traffic to and from said final radio base station based on a desired quality of service associated with said communication traffic **{(page 16, paragraph 2) supervisor 56 provides each distribution point 40 with a logical address and a listing indicating to which additional distribution point 40 in communication with distribution point 40 information packets should be forwarded for each possible destination distribution point 40. The listing may be based on maintaining a minimum quality of service in the path through distribution point network 41 to the destination distribution point 40.}**

Claim Rejections - 35 USC § 103

4. Claims 8, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dougherty (WO 01/19127 A2).**

As explained in the rejection statement of claims 1 and 31, **Dougherty** discloses all the claim limitations of claims 1 and 31 (parent claims).

Dougherty does not teach wherein said second air interface is an ISM-based air interface. Implementing air interface using ISM-based air interface is well known in the art. Therefore, it would have been obvious to those having ordinary skill in the art at the time of the invention was made to implementing ISM-based air interface in Dougherty.

Allowable Subject Matter

5. Claims 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The prior art made of record does not teach or fairly suggests in combination the method of claim 16 comprising steps of determining the RF coupling between respective ones of said radio base stations comprising said mesh at a central network manager; generating routing information at said central network manager based on said determined RF couplings; and distributing said routing information to said radio base stations comprising said mesh.

Conclusion

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Faxed to:

(703) 872-9314, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA Sixth Floor (Receptionist)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (703) 308-0148. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (703) 305-4366.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

July 22, 2004
Brenda Pham

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600